# Assignment- 1

1. How does data architecture facilitate efficient data management for analysis?
2. Discuss the role of data architecture in integrating diverse data sources such as sensors, signals, and GPS data.
3. Explain the challenges associated with managing data from various sources like sensors, signals, and GPS for analysis.
4. Write a Python function to clean a dataset by handling missing values, removing duplicates, and dealing with outliers. The function should take a pandas DataFrame as input and return a cleaned DataFrame.
5. Implement a SQL query to integrate data from multiple tables such as sensors, signals, and GPS into a single table named integrated_data, assuming all tables have a common key device_id.